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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/609,421 | 07/01/2003 | Hiroshi Ohkura | 03500.014730.1 | 9477 |

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

BERNATZ, KEVIN M

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1773

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/609,421 | OHKURA ET AL. | |
| | Examiner | Art Unit | |
| | Kevin M Bernatz | 1773 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 6-15 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Response to Amendment

1. Cancellation of claims 2 - 5 and addition of new claims 6 - 15, filed on July 30, 2004, have been entered in the above-identified application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Examiner's Comments

3. Regarding the limitation(s) "resist" in claims 9 and 15, the Examiner has given the term(s) the broadest reasonable interpretation(s) consistent with the written description in applicants' specification as it would be interpreted by one of ordinary skill in the art. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Donaldson Co., Inc.*, 16 F.3d 1190, 1192-95, 29 USPQ2d 1845, 1848-50 (Fed. Cir. 1994). See MPEP 2111. Specifically, a "resist" is merely a pattern and is not deemed to be a physically separate component/element from the insulator.
4. Regarding the limitation(s) "wherein the insulator and the anodized layer have columnar parts, and wherein a bottom of the columnar parts contacts the electrical conductor" in claim 11, the Examiner has given the term(s) the broadest reasonable interpretation(s) consistent with the written description in applicants' specification as it would be interpreted by one of ordinary skill in the art. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Donaldson Co., Inc.*, 16 F.3d

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1190, 1192-95, 29 USPQ2d 1845, 1848-50 (Fed. Cir. 1994). See MPEP 2111.

Specifically, the Examiner notes that the "columnar parts" are formed extending into/through both the insulator and anodized layer and are not "separate" columns in each layer. Applicants are recommended to reword the claim to better clarify that the insulator and the anodized layer have columnar parts *extending at least into both layers*, wherein a bottom of the columnar parts contacts the electrical conductor. See Figure I.

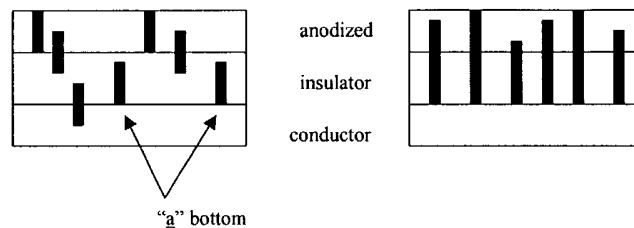


Figure I: Illustration of interpretations of claim language

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 6, 8 – 11, 14 and 15 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 - 19 of copending Application No. 10/385,570 (Den et al. – U.S. Patent App. No. 2003/0175472 A1). This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Regarding claims 6, 9 - 11 and 15, Den et al. claim a structure (*claim 4*) comprising an electrical conductor (*claims 1, 2, 4 and 9 – conductive underlayer*), an insulator formed on the electrical conductor (*claims 4 and 6 – adhesive oxide layer*), and an anodized layer formed on the insulator (*claim 4*), wherein the insulator and anodized layer have columnar parts wherein a bottom of the columnar parts contacts the electrical conductor (*claim 4*). The Examiner notes that “pores” are inherently a pattern and therefore read on the limitation “wherein the insulator contain a resist”.

Regarding claims 8 and 14, while Den et al. fail to explicitly claim insulators consisting of SiO₂, Den et al. does claim that the adhesive layer (i.e. “insulator”) “contains Si as a main component” (*claim 4*) and that oxides are within the scope of the inventive adhesive layer (*claim 6*). The Examiner therefore deems it would have been obvious to one of ordinary skill in the art at the time of the applicant’s invention to modify the device of Den et al. to use a SiO₂ adhesive layer since Den et al. teach both oxide layers and layers containing “Si as a main component” and SiO₂ meets both criteria.

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7. Claim 12 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 - 19 of copending Application No. 10/385,570 (Den et al.) as applied above, and further in view of Hattori et al. (U.S. Patent No. 6,313,969 B1). This is a provisional obviousness-type double patenting rejection.

Den et al. is relied upon as described above.

Den et al. fail to claim a columnar magnetic material, though they do claim using "functional" material (*claim 3*).

However, Hattori et al. teach filling holes/pores with a magnetic material, thereby meeting applicants' claimed "column-shaped body" limitation, is known to produce a magnetic recording medium with a high transfer rate of data with no fringing problem (*Figure 2F and col. 2, lines 16 – 62*).

It would, therefore, have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Den et al. to include magnetic material meeting applicants' claimed structural limitations as taught by Hattori et al. in order to produce a magnetic recording medium with a high transfer rate of data with no fringing problem.

Claim Objections

8. Claim 6 is objected to because of the following informalities: "is" should be "are" on line 7. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 11 – 15 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for columnar parts which are coextensive through the insulator and anodized layer (*rightmost illustration in Figure 1 above*), does not reasonably provide enablement for columnar parts which are separate from each other (*leftmost illustration in Figure 1 above*). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. This rejection can be overcome by amending the claim as suggested in Paragraph 4, above.

Claim Rejections - 35 USC § 102

11. Claims 6 – 15 are rejected under 35 U.S.C. 102(a) as being anticipated by Iwasaki et al. (EP 951047 A2).

Regarding claims 6, 9 - 11 and 15, Iwasaki et al. disclose a structure comprising an electrical conductor (*Paragraphs 0041 - 0042 and claims 2 - 5*), an insulator formed on the electrical conductor (*ibid* – “*partially oxidized at the interface between the nanoholes and the silicon surface*”), and an anodized layer formed on the insulator (*claim 2 – anodized aluminum layer*), wherein the insulator and anodized layer have

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coextensive columnar parts therein and wherein a bottom of the columnar parts contacts the electrical conductor (*claim 2 and Paragraphs 0041 – 0042*).

Regarding claims 7, 8, 13 and 14, Iwasaki et al. disclose materials for the conductor and insulator meeting applicants' claimed limitations (*claims 3 and 5 and Paragraph 0041*).

Regarding claim 12, Iwasaki et al. disclose using magnetic materials (*Paragraphs 0057, 0058 and 0081 – 0083; and Figure 21D, element 233*).

Response to Arguments

12. The prior Double Patenting rejections of claims 2 - 5 in view of various references

The above noted rejections have been withdrawn because applicants' amendment has cancelled claims 2 – 5.

13. The prior rejection of claims 2 - 5 under 35 U.S.C § 102 and/or 103(a) – various references

The above noted rejections have been withdrawn because applicants' amendment has cancelled claims 2 – 5.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

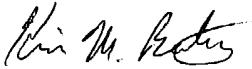
Applicants' amendment resulted in embodiments not previously considered (i.e. new claims 6 - 15) which necessitated the new grounds of rejection, and hence the finality of this action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin M. Bernatz, PhD.
Primary Examiner

October 15, 2004